

BASIS FOR THE AMENDMENT

Claims 1-15 are active in the present application. Claims 16-18 have been canceled. Claim 1 has been amended to include the limitations of Claim 16. Claim 1 has been further amended as supported by the disclosure in paragraph [0048] and the Examples of the published application (U.S. 2004-009357) corresponding to the present application. No new matter is believed to have been added by this amendment.

### REQUEST FOR RECONSIDERATION

Applicants thank the Examiner for the helpful and courteous discussion of December 15, 2004 with Applicants' U.S. representative. During the discussion a comparison of the prior art materials with the presently claimed materials was considered together with the filing of a Terminal Disclaimer.

The Office rejected the present claims as anticipated or obvious in view of patents to Maruyama '221 (U.S. 4,567,221) or Maruyama '947 (U.S. 4,708,947). It appears that the Office is asserting that the materials disclosed in either or both of the Maruyama '221 or Maruyama '947 patents inherently meet the limitations of the present claims.

Applicants traverse the rejection in view of the Declaration under 37 C.F.R. § 1.132 submitted concurrently herewith. The Declaration evidences that the materials disclosed in the Examples of the Maruyama '221 and Maruyama '947 patents do not meet all of the present claim limitations. The Declaration also evidences that materials (i.e., polyvinyl alcohols-PVA) that meet the limitations of formulae (I) and (II) of present independent Claim 1 offer significantly superior or unexpectedly different properties in comparison to the PVAs of Maruyama '221 or Maruyama '947.

In Experiment 1 which begins on page 6 of the Declaration the polyvinyl alcohol PVA1 is disclosed. Experiments 2-14 which begin on page 7 of the Declaration describe the other polyvinyl alcohols of Maruyama '221 and Maruyama '947. The results of the experiments of the Declaration are tabulated in the Declaration in Tables 1, 2, and 3. The examples of the Declaration correspond to the polyvinyl alcohols of Maruyama '221 and Maruyama '947 as follows:

PVA 1 - Examples 1-4 and 8 of Maruyama '221;

PVA 2 - Example 6 of Maruyama '221;

PVA 3 - Example 7 of Maruyama '221;

PVA 4 - Examples 9 and 10 of Maruyama '221;

PVA 5 - Examples 11 and 20-24 of Maruyama '221;

PVA 6 - Example 12 of Maruyama '221;

PVA 7 - Example 14 of Maruyama '221;

PVA 8 - Example 15 of Maruyama '221;

PVA 9 - Example 17 of Maruyama '947;

PVA 10 - Examples 18 and 38 of Maruyama '947;

PVA 11 - Examples 19 and 39 of Maruyama '947;

PVA 12 - Examples 20 and 40 of Maruyama '947;

PVA 13 - Examples 42-44 of Maruyama '947; and

PVA 14 - Example 45 of Maruyama '947.

At the outset, Applicants note that Examples 5, 13 and 16-19 of Maruyama '221 cannot meet the present claim limitations because the comonomer does not meet the requirements of formulas (1) or (2) of independent Claim 1. For example, Examples 5, 13 and 16 of Maruyama '221 require a methacrylamidopropyltrimethoxysilane comonomer and Examples 17-18 require a trimethoxysilyl-propylmercaptan. Because these Examples of Maruyama '221 cannot meet the present claim limitations with regards to the structure of the silyl group, they cannot anticipate the presently claimed invention and are not included in the Examples of the present Declaration.

As can be seen from Examples 1-4, 6-10 and 15 of Maruyama '221 and Table 3 in the Declaration, the limitation represented by formula (I) in present claim 1 (e.g.,  $20 < P \times S < 370$ ) is not met by the prior art disclosure. Examples 11-12, 14 and 20-24 of Maruyama '221 may meet the limitation represented by formula (I) of present Claim 1 but do not meet the limitation represented by formula (II) of present independent Claim 1 (e.g., Examples 11, 12, 14 and 20-24 are unable to meet the requirement  $0.1/100 \leq (A-B)/(B) \leq 50/100$ ).

Applicants have therefore shown that the Examples of Maruyama '221 do not meet the present claim limitations and cannot anticipate the presently claimed subject matter.

The Declaration also provides test data for the Examples of Maruyama '947. At the outset it is noted that only Examples 17-20 and 38-45 of Maruyama '947 have a silyl group that functionalizes the polyvinyl alcohol. For example, Examples 1-3 have no silyl group functionalization and Examples 4-15 are modified with other groups such as carboxy, sulfonic or cationic groups, but do not contain a silyl group of formulas (1) and (2). Thus at least Examples 1-16 and 21-37 of Maruyama '947 cannot meet the present claim limitation of a polyvinyl alcohol that is functionalized with a silyl group. The polyvinyl alcohol of Example 41 of Maruyama '947 contains a silyl group that does not meet the present claim limitations (e.g., the silyl group of Example 41 of Maruyama '947 is a methacrylamidopropyltriethoxysilane).

As is shown in the Declaration, Examples 17 and 45 of Maruyama '947 are unable to meet the limitations of formula (I) of present independent Claim 1. Examples 18-20, 38-40 and 42-44 of Maruyama '947 are unable to meet the limitations of formula (II) of present independent Claim 1.

Applicants have therefore shown that the polyvinyl alcohols exemplified in Maruyama '947 do not meet all of the present claim limitations and cannot anticipate the presently claimed subject matter.

The importance of meeting the limitation of formula (II) of present independent Claim 1 was disclosed in the specification as originally filed (see paragraph [0026] - [0035] of the published U.S. application). In order to control the ratio  $((A-B)/(B))$ , a washing operation can be employed. As is disclosed in paragraph [0063] of the publication corresponding to the present application:

The polyvinyl alcohol thus obtained through hydrolysis may be washed, if desired. This operation is useful as a means for

controlling the value  $(A-B)/(B)$  of the polyvinyl alcohol mentioned hereinabove.

Neither of the Maruyama '221 or '947 patents discloses the use of special washing conditions after hydrolysis of polyvinyl alcohol. Further, neither of the Maruyama patents discloses that a range defined by the ratio  $(A-B)/(B)$  may be important to obtaining polyvinyl alcohol materials of superior or unexpectedly different properties.

In order to demonstrate that the presently claimed polyvinyl alcohol materials offer significantly superior or unexpectedly different properties in comparison to the prior art polyvinyl alcohols, Applicants draw the Office's attention to the Declaration filed under 37 C.F.R. § 1.132. In the Declaration the polyvinyl alcohols of Maruyama '221 and Maruyama '947 are described and their properties including viscosity stability; water resistance of film with inorganic substance; and binding force are disclosed. The data for each of the prior art examples is tabulated in Table 3 of the Declaration. This information may be compared with the viscosity stability, water resistance and binding force properties measured for Examples 1-14 disclosed in the present specification and tabulated on page 12 of the published U.S. application.

For some of the Examples of the Maruyama patents, it is not even possible to measure the water resistance or binding force properties because the prior art PVAs either do not dissolve in aqueous solution or it is not possible to prepare a uniform aqueous solution with an inorganic substance (see the footnote to Table 3 in the Declaration). Although it is possible to measure the viscosity stability of some of the Maruyama '221 or Maruyama '947 examples (see the third to the last column of Table 3 of the Declaration) it is readily evident that the viscosity stability is low (a value of either "D" or "C" if measurable).

Applicants have provided a side-by-side comparison of 14 polyvinyl alcohols that meet the present claim limitations against all of the Maruyama '221 or Maruyama '947 polyvinyl alcohols that meet at least the requirement that the polyvinyl alcohol is

functionalized with a silyl group that meets the limitations of formulas (1) and (2) of present independent Claim 1. Applicants submit that the Declaration under 37 C.F.R. § 1.132 is sufficient to show that none of the prior art polyvinyl alcohols is able to provide the viscosity stability, water resistance or binding force properties of the presently claimed polyvinyl alcohols and therefore the claimed polyvinyl alcohols have been shown to have properties which are not inherent to or obvious from the Maruyama prior art polyvinyl alcohols.

With regards to the obviousness-type double patenting rejection in view of co-pending 10/617,190 applicants note the rejection is a provisional rejection. Applicants respectfully submit the rejection should be held in abeyance until the present claims have been identified as allowable. If at that time the Examiner has not withdrawn the rejection, Applicants submit the rejection in the present case may be entered in the co-pending case (see MPEP § 804).

Applicants therefore submit that the presently claimed invention is novel and not obvious in view of either of Maruyama '221 or Maruyama '947 and respectfully request the withdrawal of the rejections.

Respectfully submitted,

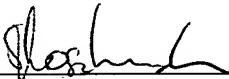
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